

UPDATED GENERAL INFORMATION — MARCH 19, 2009

This is just a collection of miscellaneous remarks together with a summary of the results for the third examination.

The “Lobachevsky” song. As with many satirical works, there is room for criticism on grounds of insensitivity. The citation of this song and the inclusion of a link to a related video is for informational purposes only. There are some comparisons in the notes between the content of the song and the historical record, but these do not reflect anything else — either way — about the song itself.

The Triangle Midpoint Theorem in hyperbolic geometry. In Euclidean geometry, if we are given $\triangle ABC$ such that D and E are the midpoints of $[AB]$ and $[AC]$ respectively, then we can conclude that $DE \parallel BC$ and $d(D, E) = \frac{1}{2}d(B, C)$. In hyperbolic geometry, one can still prove that $DE \parallel BC$ by showing that these lines have a common perpendicular. On the other hand, in hyperbolic geometry we have $d(D, E) < \frac{1}{2}d(B, C)$. Further information on this appears in Exercise 2 on pages 269–270 of Greenberg.

The *a posteriori* nature of the laws of physics. As indicated in the Durant citation on page 273 of the notes, one contrast between the *a priori* rules of arithmetic and the largely *a posteriori* laws of the other sciences is that one can imagine worlds in which the latter do not hold. Popular culture provides many examples along these lines (for example, mythological animals and the “Road Runner” cartoons). References for some are given in the file `cartoonphysics.pdf` in the course directory.

STATISTICS FOR THE THIRD EXAMINATION

The cutoff scores are as follows:

A — 65
B — 40
C — 25

The median score was 65.

Examinations and other class papers will be available next quarter (if interested, please use electronic mail in order to set a time to pick them up). Written appeals regarding the grading of

this examination should be placed on the examination, indicating the problems to be reconsidered. BRIEF and OBJECTIVE statements about specific issues may be included.

Statement on final grade determination:

As noted previously, the course grade will be determined by a weighted average of the grades on the examinations, the quizzes and the homework. The cutoff points for A, B, C, D, F will be determined individually for each each of these constituents, and for grading purposes the raw numerical scores will be normalized as follows:

4.0 = perfect score, 3.0 = lowest A, 2.0 = lowest B, 1.0 = lowest C, 0.0 = lowest D, -1.0 = zero score. If the raw numerical score lies between two of these values, the normalized score will be determined by linear interpolation.

EXAMPLE. If the lowest A is 88, the lowest B is 72, and a student's raw numerical score is 76, then the raw score is 4 points above the lowest B, the difference between the lowest A and the lowest is 16, and therefore the grade is $\frac{4}{16} = \frac{1}{4}$ of the way from the lowest B to the lowest A; linear interpolation means that the normalized score on the examination is **2.25**.